Claims:

1.

A carburetor, including:

a carburetor body having a scavenging air passage and an air intake passage formed therein;

an air valve disposed in communication with the scavenging air passage and moveable between closed and open positions to control air flow through the scavenging air passage, and an air valve operating lever carried by the air valve for rotation with the air valve;

a choke valve disposed in communication with the air intake passage and moveable between an open position permitting a substantially unrestricted fluid flow therethrough and a closed position restricting fluid flow through the air intake passage, and a choke valve lever carried by the choke valve for rotation with the choke valve;

a throttle valve disposed in communication with the air intake passage and moveable between an idle position restricting fluid flow through the air intake passage and a wide open position permitting a substantially unrestricted fluid flow therethrough, and a throttle valve lever carried by the throttle valve shaft and coupled to the air valve operating lever by a lost motion coupling enabling limited movement of the throttle valve relative to the air valve during at least a portion of the movement of the throttle valve between its idle and wide open positions, said choke valve lever being arranged so that when the choke valve is closed the throttle valve can be moved away from its idle

position while the air valve remains closed so that a rich fuel and air mixture can be delivered from the carburetor.

2.

The carburetor of claim 1 wherein said lost motion coupling includes a slot formed in one of the air valve lever and throttle valve lever, a link connected to one of the air valve lever and throttle valve lever and slidably received in said slot in the other of the air valve lever and throttle valve lever.

3.

The carburetor of claim 1 wherein said throttle valve lever is generally aligned with the air valve operating lever and spaced from the air valve operating lever when the throttle valve is in its idle position and the air valve is in its closed position providing said lost motion coupling wherein during a portion of the movement of the throttle valve from its idle position to its wide open position the throttle valve lever engages and displaces the air valve operating lever to move the air valve from its closed position toward its open position.

4.

The carburetor of claim 1 which also includes a lock lever carried by the throttle valve, capable of rotation relative to the throttle valve, and selectively engageable with the choke valve lever and the throttle valve lever so that when the choke valve is moved to its closed position the lock lever

displaces the throttle valve lever to move the throttle valve away from its idle position to a start position.

5.

The carburetor of claim 4 wherein the throttle valve lever includes a tab generally aligned with the lock lever and engaged by the lock lever when the choke valve engages and displaces the lock lever to move the throttle valve to its start position.

6.

The carburetor of claim 4 wherein the choke valve is yieldably biased toward its open position so that movement of the lock lever away from the choke valve lever enables the choke valve to return to its open position.

7.

The carburetor of claim 2 wherein the slot is formed in the throttle valve lever and the link is connected to the air valve lever so that initial movement of the throttle valve lever away from its idle position causes relative movement between the throttle valve lever and the link until the throttle valve lever engages the link and further movement of the throttle valve causes a corresponding displacement of the air valve through the link.

8.

The carburetor of claim 1 wherein the air valve includes a first lever rotatably carried by the air valve shaft, a stop member carried by the air valve shaft for rotation with the air valve shaft, and at least one spring yieldably biasing one end of the first lever and one end of the air valve operating lever into engagement with the stop member, movement of the choke valve to its closed position engages the choke valve lever with the first lever and displaces said one end of the first lever from the stop member permitting the air valve operating lever to rotate relative to the air valve shaft when the throttle valve lever engages the air valve operating lever during opening of the throttle valve.

9.

The carburetor of claim 8 wherein when the air valve is moved toward its open position, the air valve shaft, first lever and air valve operating lever rotate in the same direction.

10.

The carburetor of claim 8 wherein the choke valve lever displaces the first lever in a direction of rotation opposite to the direction of rotation of the air valve shaft when the air valve is moved toward its open position.

11.

A carburetor, including:

a carburetor body having a scavenging air passage and an air intake passage formed therein;

an air valve disposed in communication with the scavenging air passage and having an air valve shaft rotatably carried by the carburetor body, an air valve head carried by the air valve shaft for rotation with the air valve shaft between closed and open positions to control air flow through the scavenging air passage, and an air valve operating lever carried by the air valve shaft for rotation with the air valve shaft;

a choke valve disposed in communication with the air intake passage and having a choke valve shaft, a choke valve head carried by the shaft for movement between an open position permitting a substantially unrestricted fluid flow therethrough and a closed position restricting fluid flow through the air intake passage, and a choke valve lever carried by the choke valve shaft for rotation with the choke valve shaft;

a throttle valve disposed in communication with the air intake passage and having a throttle valve shaft, a throttle valve head carried by the throttle valve shaft for movement between an idle position restricting fluid flow through the air intake passage and a wide open position permitting a substantially unrestricted fluid flow therethrough, and a throttle valve lever carried by the throttle valve shaft and coupled to the air valve operating lever by a lost motion coupling enabling movement of the throttle valve away from its idle position a predetermined amount without moving the air valve from its

closed position with continued movement of the throttle valve beyond said predetermined amount moving the air valve toward its open position as a function of the continued movement of the throttle valve toward its wide open position; and

a lock lever rotatably carried by the throttle valve shaft, selectively engageable with the choke valve lever, and selectively engageable with the throttle valve lever so that movement of the choke valve to its closed position engages the choke valve lever with the lock lever and causes the lock lever to engage the throttle valve lever to displace the throttle valve to a start position spaced from its idle position an amount less than said predetermined amount without moving the air valve from its closed position thereby providing an enriched fuel and air mixture to the engine compared to the fuel and air mixture delivered to the engine when the throttle valve is in its idle position.

12.

The carburetor of claim 11 wherein said lost motion coupling includes a slot formed in one of the air valve lever and throttle valve lever, a link connected to one of the air valve lever and throttle valve lever and slidably received in said slot in the other of the air valve lever and throttle valve lever.

13.

The carburetor of claim 12 wherein the slot is formed in the throttle valve lever and the link is connected to the air valve lever so that initial movement of the throttle valve lever away from its idle position causes

relative movement between the throttle valve lever and the link until the throttle valve lever engages the link and further movement of the throttle valve causes a corresponding displacement of the air valve through the link.

14.

The carburetor of claim 11 wherein the lock lever includes a shoulder engageable by the choke valve lever when the choke valve is moved to its closed position to hold the choke valve in its closed position and the throttle valve in its start position.

15.

The carburetor of claim 14 wherein the choke valve is yieldably biased toward its open position so that movement of the lock lever away from the choke valve lever enables the choke valve to return to its open position.

16.

The carburetor of claim 17 wherein the throttle valve lever includes a tab generally aligned with the lock lever and engaged by the lock lever when the choke valve engages and displaces the lock lever to move the throttle valve to its start position.

17.

The carburetor of claim 11 wherein the air valve lever and throttle valve lever are constructed and arranged so that the air valve lever is in its fully open position when the throttle valve lever is in its wide open position.

18.

The carburetor of claim 17 wherein the air valve lever opens at a faster rate than the throttle valve lever during at least a portion of the movement of the throttle valve lever.

19.

The carburetor of claim 13 which also includes a slot formed in the lock lever that is spaced equally from the throttle valve shaft as the slot in the throttle valve lever permitting relative movement between the lock lever and the link.

20.

A carburetor, including:

a carburetor body having a scavenging air passage and an air intake passage formed therein;

an air valve disposed in communication with the scavenging air passage and having an air valve shaft rotatably carried by the carburetor body, an air valve head carried by the air valve shaft for rotation with the air valve shaft between closed and open positions to control air flow through the

scavenging air passage, and an air valve operating lever rotatably carried by the air valve shaft;

a choke valve disposed in communication with the air intake passage and having a choke valve shaft, a choke valve head carried by the shaft for movement between an open position permitting a substantially unrestricted fluid flow therethrough and a closed position restricting fluid flow through the air intake passage, and a choke valve lever carried by the choke valve shaft and engageable with the air valve when the air valve is closed and the choke valve is moved to its closed position to hold the air valve in its closed position; and

a throttle valve disposed in communication with the air intake passage and having a throttle valve shaft, a throttle valve head carried by the throttle valve shaft for movement between an idle position restricting fluid flow through the air intake passage and a wide open position permitting a substantially unrestricted fluid flow therethrough, and a throttle valve lever carried by the throttle valve shaft and engageable with the air valve operating lever during at least a portion of the movement of the throttle valve between its idle and wide open positions so that when the choke valve is open engagement of the throttle valve with the air valve operating lever moves the air valve toward its open position as a function of the continued movement of the throttle valve toward its wide open position, and when the choke valve is closed, continued rotation of the throttle valve lever beyond its engagement with the air valve operating lever rotates the air valve operating lever relative to the air valve shaft without moving the air valve from its closed position.

21.

The carburetor of claim 20 wherein the air valve includes a first lever rotatably carried by the air valve shaft, a stop member carried by the air valve shaft for rotation with the air valve shaft, and at least one spring yieldably biasing one end of the first lever and one end of the air valve operating lever into engagement with the stop member, and wherein movement of the choke valve to its closed position engages the choke valve lever with the first lever and displaces said one end of the first lever from the stop member permitting the air valve operating lever to rotate relative to the air valve shaft when the throttle valve lever engages the air valve operating lever during opening of the throttle valve.

22.

The carburetor of claim 21 wherein the first lever and air valve operating lever rotate in planes generally perpendicular to the axis of the air valve shaft.

23.

The carburetor of claim 21 wherein said one end of the first lever engages one side of the stop member and said one end of the air valve actuating member engages an opposite side of the stop member.

24.

The carburetor of claim 21 wherein when the air valve is moved toward its open position, the air valve shaft, first lever and air valve operating lever rotate in the same direction.

25.

The carburetor of claim 21 wherein the choke valve lever displaces the first lever in a direction of rotation opposite to the direction of rotation of the air valve shaft when the air valve is moved toward its open position.

26.

The carburetor of claim 21 wherein a spring is disposed between the first lever and air valve actuating lever with one end of the spring bearing on the first lever and the other end of the spring bearing on the air valve operating lever to bias the first lever and air valve operating lever in opposed rotational directions and into engagement with opposite sides of the stop member.

27.

The carburetor of claim 21 which also includes an adjustment member carried by the air valve operating member adjacent to said one end engagable with the stop member, the position of the adjustment member being adjustable relative to the air valve operating lever and engageable with the stop member

to permit adjustment of the position of the air valve operating lever relative to the stop member.

28.

The carburetor of claim 20 which also includes a spring having one end bearing on the air valve and its other end bearing on the carburetor body to bias the air valve toward its closed position.

29.

The carburetor of claim 28 wherein the air valve includes a stop member carried by the air valve shaft for rotation with the air valve shaft and said one end of the spring bears on the stop member.

30.

The carburetor of claim 20 wherein the air valve is carried by a plate secured to and defining in part the carburetor body and the scavenging air passage.

31.

The carburetor of claim 21 which also includes a spring having one end bearing on the stop member and its other end bearing on the carburetor body to bias the air valve toward its closed position.

32.

The carburetor of claim 20 wherein the air valve lever includes a cam surface engageable by the throttle valve lever and oriented relative to the throttle valve lever so that when the throttle valve is in its wide open position the air valve is in its fully open position.

33.

The carburetor of claim 32 which also includes a finger carried by the throttle valve lever and oriented to engage the cam surface of the air valve operating lever during at least a portion of the movement of the throttle valve from its idle to its wide open positions, said finger sliding relative to the air valve operating lever during at least a portion of the engagement of the finger and cam surface to control the movement of the air valve as a function of the movement of the throttle valve.